/78 cont./

412 kneeling woman exerts on them is accompanied by gentle rocking, which facilitates the grinding.

372 /79/ The Uro have no combustible material other than dried [232] animal excrement and tola branches, which they go far to seek. [224] These things are precious, and the Uro, like the Cipaya and the Aymara, are sparing in their use.

231 Near the huts a type of earth niche is sometimes erected which is rather similar to the huts around the village of Chipaya; these are pigstys.

226 Fishing. The Uro, in our age as in pre-Colombian times, [262] draw their main subsistence from the lake. They are excellent [439] fishers. The fish they catch is partly consumed by themselves and partly sold to the Aymara and to the half-breeds of the capital. I did not have the opportunity to be present on a real fishing expedition, only at several demonstrations made at my request. They first taught me the way in which they use the landing net shown in Fig. 23, 1 /see p. 9/. The wooden frame which holds the stretched-out net is fastened to the end of a pole. The Indian plunges this rectangular pocket into the water and remains standing or seated on his balsa until he sees an interesting prey. He begins by lifting his net delicately, then pulls it out of the water with a sudden motion.

227 There is another type of landing net which is much larger. It is composed of a circle from which wooden sticks joined at one end go out. This skeleton, conical in form, is covered with a net. Another net, as large as a hand, is stretched across the opening to make the escape of the fish even more difficult. This apparatus is often of considerable dimensions; some are more than three meters in diameter. They are always equipped with a handle by which they are held in the water and lifted up as soon as the fish have ventured in (Pl. III, B /see p. 23/).

The Uro Indians also possess bottom nets, which I regret not having seen employed. I have, however, acquired a perforated stone (Fig. 24, 2 /see p. 10/) which corresponds to our weights or ballast.

/79 cont./

226 ballast. According to the information I have gathered, these nets are used for fishing in deep water. They are dragged simultaneously by several balsas or used as dams. Many people are necessary to handle them.

As the nets accumulate algae and aquatic refuse of all kinds, the Uro carry little brooms with them, with which they clean the meshes once the net is out of the water. To disturb the water and chase the fish toward the nets or weirs, the Uro have sticks with balls of totora attached to their ends. They move them in a vertical direction.

To bring the fish into their nets the Uro, like many /80/ /Fig. 23 appears here/ /81/ /Fig. 24 appears here/ /82/ Indian tribes of America, construct barriers which they call kense. These dikes are formed of bundles of totora. Each is composed of five or six rushes laid out in the same direction and attached by the thinnest upper part. They transport these bundles on their balsas to the spot which seems to them the most propitious for fishing, and there they erect their barrier. To sink the bundles of totora [501] in the mud, they use the boat hook (l'okena) with which they propel their small boats. A bundle is placed against the boat hook, the point of the latter resting on the ligature of the bundle. The whole thing is thrust into the earth vertically. The end of the bundle protrudes several centimeters above the surface of the water. They repeat the operation until they have raised a dike which is sufficiently compact to retain the fish. The barrier has the shape of an angle which is open in the direction of the current. The two sides are straight or curve slightly inward. They end in an opening about one meter wide, whose edges, more resistant than the rest of the barrier, are composed of two bunches 20 centimeters in diameter. In contrast to the other bundles, the latter have a transverse ligature a few centimeters from the surface.

Facing this opening there is generally an islet of totora which protects the barrier against the wind and to which the fisherman can attach his balsa. There he stations himself with his net.

[text continues on p.11]

/82 cont./

226 He lies in wait for the fish which are caught between the two dikes and are thus led toward the net which closes the barrier" (Palavecino).

The Uro like to fish at night: "It is a curious spectacle to see them on moonlit nights embark on their balsas in the direction of their barriers. At their destination they form a sort of conical tent with the totora sails, which shelters them from the wind, and they give themselves over to fishing" (Palavecino).

[411] When the Uro navigate on the Desaguadero, they always carry along with them a spear (p'iti), whose point bristles with iron spikes. With this weapon they harpoon the suche (Tricomicterus), a fish to which they are very partial, in the mud where the water is not very deep.

223 Hunting. Hunting plays only a very secondary role in the Uro economy. In all, for game they have nothing beside the water birds which abound in the marshes of the Desaguadero. They strike them with bolas, of which two weights are cylinders of wood; the third is an oval stone, which they hold in the hand while they whirl this weapon over the head (Fig. 25, 9 /see p. 15/).

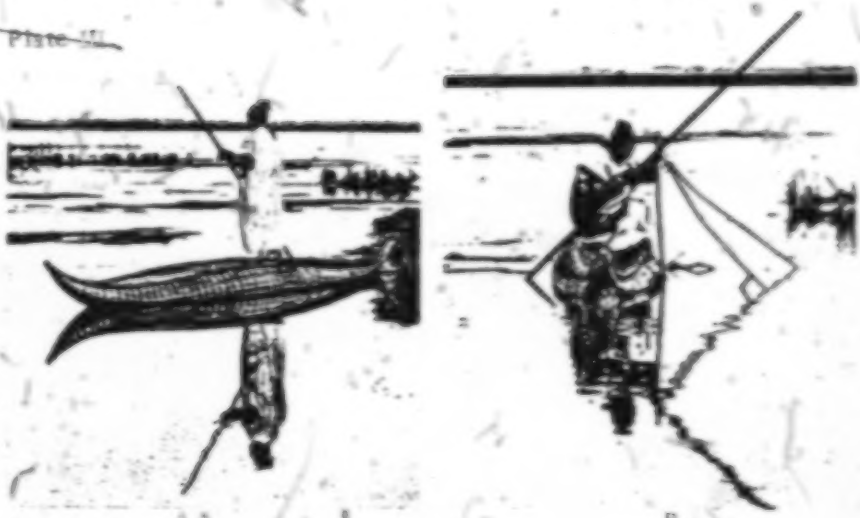
They also have recourse to extremely long nets in capturing these birds whose flight skims the water. These are stretched in a semicircle /83/ in the middle of the fields of totora and attached to faggots of rushes and to stakes. A part of the net is submerged to prevent the diving birds from passing beneath the surface of the water. The hunters on their balsas make noise to chase the birds toward the obstacle where the latter find themselves caught. Those which succeed in escaping are killed with bolas.

The cold of the Titicaca is such that in the mornings the birds are torpid. The Indians, hidden behind bundles of totora, draw near without being seen; they catch them by their claws and finish them off with their teeth or by twisting their necks.

241 Agriculture. The Uro today practice agriculture, just as the inhabitants on the shores of the Titicaca do. I do not know to what extent the produce of their fields contributes toward guaranteeing their existence. They cultivate, of course, potatoes and quinua.

1:Métraux--23 E-5 (1931) 1935 SF24 Uru SF24
Ancoaqui

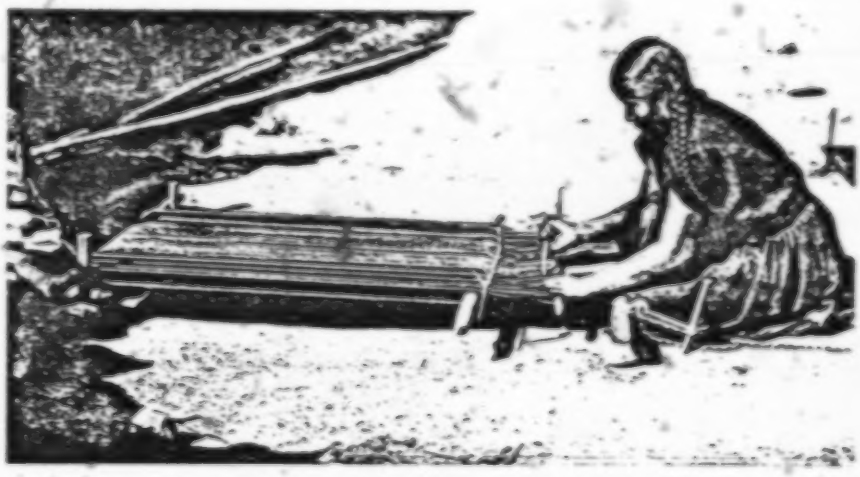
Plate III



A. B.

Indian fishing with landing nets.

C. Woman weaving.



[End Plate 2]

Carangas - Chipaya Aymara SF5

/164 cont./

1. Posnansky (Ing. Arthur), Los Chipayas de Carangas /The Čipaya of Carangas/, La Paz, Bolivia, 1918, p. 6; La lengua "Chipaya" (Carangas, Bolivia) /The "Čipaya" Language (Carangas, Bolivia)/. La Paz, 1915, p. 2; "Nuevas investigaciones en Carangas (Bolivia) /New Investigations in Carangas (Bolivia)/," Congrès international des Américanistes, Record of the XXI Session, Part II, held at Göteborg in 1924, Göteborg, 1925, p. 91.

the principal food of the Čipaya. In reality, during my entire stay I never saw a Čipaya catch one, and when I asked them to get a few specimens for me, they demanded an exorbitant price from me, claiming the difficulty of this hunt. Toxo are rare in the territory properly called Chipaya; they are found only at a certain distance from the grassy zone behind the dunes. It is there that the Aymara come /165/ to capture them. Their method, as far as I can understand it from the explanations which have been given to me, is the following: they try to dislodge the toxo from the underground corridors where it stays by opening them with a blow from a shovel; then when it comes out they pursue it and beat it to death. In the plains undermined by the toxo, one can see the earth completely worked over by the hunters.

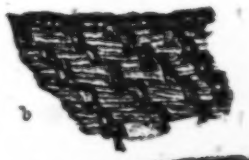
The Čipaya easily get hold of vicuñas by setting their dogs, swift and bloodthirsty beasts, on them. They themselves succeed in knocking down these animals with bolas, or throwing stones. This same weapon permits them to bring down water birds.

The fish to be found in the small ponds of the Chipaya plain are too miniscule for the word fishing to be used in connection with them. It is more as a pastime than for food that the Čipaya amuse

[i.e., The TOXO -- Analyst]

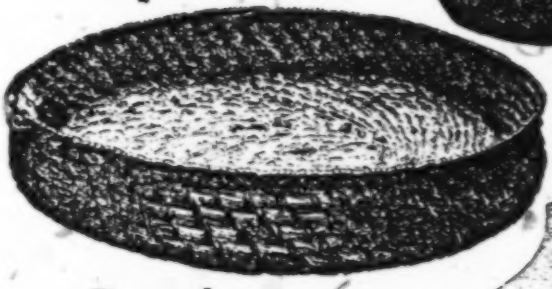
/167/

285
[415]



13-16 cm.

D



415

A

29cm

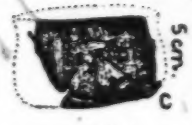
[424]

B

40 cm.

E

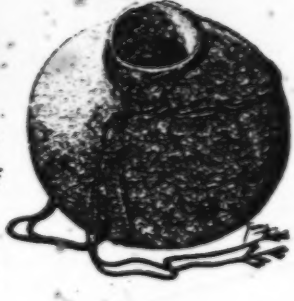
[284]



5cm.

C

F



/See captions on next page./

/167 cont./

Fig. 3. — Čipaya material culture. Basketry and pottery.

285 A: Basket with spiral basketwork used as a winnowing basket by the Čipaya; b: detail of the technique.

226 B: Fish-trap basket of the shore-dwellers of the Poopó marshes, used by the Čipaya to hold small objects.

415 C: Fragments of a broken bowl sewn together.

D: Cipaya bowl (čua).

E: Jug (luč) reminiscent of the old aryballus, bought in Chipaya but of Aymara manufacture.

F: Jug (luč) of old type (from a sketch).

/173 cont./

*539 [396] 14. We are going to place a rim of totoras. 15. He attaches the rim of the balsa. 16. He tightens the rim of the balsa. 17. We are going to finish. 18. (The totora) is still a bit loose; we are going to tighten it a bit more. 19. All is finished. 20. Now the balsa is ready. 21. Let us go fishing [501] with the new balsa. 22. We are not going to hoist a sail? 23. We are not accustomed to use a sail; there is too little water. 24. We always use a boat hook manipulated by hand. [226] 25. Here is the stone which is attached to the large net so that the fish can enter. 26. The fish is going to enter (the net); now we are going to lift (the net) up and put it in the balsa.

Remarks

This text is divided into two parts. The first, 1 to 20, describes the making of balsas from totoras. The second is a succinct description of fishing with a net in the swamps of the Desaguadero.

*539 396 [824] To build their balsas the Uru use the Scirpus totora, which used to grow in abundance in the swamps of the Desaguadero and at numerous points on the shores of Lake Titicaca. Two Indians work at the same time on the con- [114] struction of a balsa. First they lay out the bunches of totoras on the ground, from which they make three spindles the length of the balsa, two large side ones and a middle one which is shorter and thinner; this middle cylinder, the "heart of the balsa," used to stabilize the craft, has passed unnoticed by practically all the authors who have concerned themselves [171] with the Uru. Only the fishers on the lagoon of Arapa, to the north of Lake Titicaca, who speak Keŝwa, build balsas, small and rather narrow, formed with two cylinders.

[284] The totora of three cylinders is held in place with the aid of thin straw plaits (2-4), which hold the cylinders evenly between them. These straw ropes are tightened in a progressive and methodical fashion by two /174/ men, working alternately

/175/

III. Fishing
(Account by Manuel Inta)

(See p. 157 /in the foreign text/)

Free Translation

*539 226 1. I left my house. 2. I went toward the lake. 3. I have been to catch fish. 4 I took a boat hook. 5. I took a large net. 6. We are accustomed to fish with this net. 7. We are accustomed to go fishing at night as well as very early in the morning or evening. 8. We are accustomed to go with another person or even alone. 9. We are free to go fishing or not to go. 10. I got into this balsa. 11. We are accustomed to propel it with the boat hook. 12. We maneuver the boat hook by hand. 13. We are accustomed to put on our tunics now because of the mist. 14. We have taken way a net. 15. Thou, chase the fish with thy boat hook. 16. Me, I lift up the net. 17. There is a souche; a souche is swimming by. 18. We are going to catch it. 19. It is very close. 20. Stick it (with thy spear). 21. Hast thou caught it? 22. I have caught it. 23. We are accustomed to putting (the fish) in the balsa. 24. A souche has fallen into the water. 25. I have taken it out of the water. 26. Let us go elsewhere. 27. All the fish have left. 28. Let us go hunt for coots. 29. Let us rest; I am tired. 30. We are accustomed to hunting coots. 31. We are accustomed to follow them in flight. 32. We are accustomed to hitting them with the boat hook. 33. It has dived. 34. It is coming out of the water. 35. I shall catch the coot with my boleadores /bolas/. 36. It did not touch it. 37. Another will come and thou wilt catch it. 38. Yes. 39. It has come back. 40. We will set out again with the balsa. 41. Let us go fast, or else it will escape (outdo) us. 42. We have caught it. 43. We have caught its /176/ young ones. 44. Bite the coot at its head (to kill it). 45. Let us go

*539 123

/176 cont./

sell it. 46. We must return with this one; let's return. 47. There are no more. 48. We go along in vain. 49. We have looked everywhere; there are no more. 50. We are going to carry everything to the house.

Remarks

This text is divided into three parts. In a short introduction (1-9) the narrator explains the fishing customs of the Uru, and then he describes a day of fishing and hunting aquatic birds in the swamps of the Desaguadero: the departure (10-14), the work of the catcher, who hits the water with a boat hook to direct the frightened fish toward the nets (15-16); fishing for suche (Trichomycterus dispar), a silurus /sheatfish/, which is the largest fish in the lake, reaching 30/35 cm., captured by means of a long three-meter spear ending in multiple points (17-27); and lastly, hunting for coots (Fulica gigantea and Fulica americana) forced into flight and then killed with the boat hooks (30-34) or captured with bolas with wooden balls (35-42). The captured coots are killed by a bite at the head (44). Then comes the return (46-50). This account is very lively.

There are no special words for fishing or hunting; only the verb tína- čay, literally, "to take," is used.

From the point of view of grammar the text furnishes interesting verbal forms, in particular, the forms indicating the usual -čučay, as in the previous texts; the form -čáčay (46), implying the idea of obligation; the double use of the root (8) to reinforce the idea expressed by the verb. Moreover, the frequency of the euphonic letters s and l: 2, 5, 8, etc., should be emphasized.

This text contains two Hispanicisms: the first is very curious (8); in order to better render the idea of solitude, alone, absolutely alone, the narrator has repeated the word "one," /177/ but by pairing the Uru word tína, "alone," with the

/177 cont./
*539 Spanish word uno /"one"/. In 9 the Spanish word voluntad
192 (will) is deformed into pulúntá, as v does not exist in Uru, but
193 it keeps the Spanish tonic accent.

IV. Nocturnal Fishing
(Account by Manuel Inta)

(See p. 161 /in the foreign text/)

Free Translation

*539 1. We are accustomed to fish at night. 2. We are ac-
246 customed to fish in darkness. 3. But how can one see at night?
4. One can easily see the fish moving about. 5. We cover
ourselves with the sail to keep from being cold.

Remarks

[130] The Uru often go fishing at night in their fishing enclosures, and in order not to suffer from the intense cold and the icy wind, they shelter themselves under the totora sails of their craft.

*539 1. The form maká- xe, "by night," "in the darkness,"
192 is analogous to tom- xę, "today," "on this day," and to num-
193 xę, "by day." 3. kún, an interrogative particle, "how," is accompanied by the pure root of the verb. 4. kíre, "fish," is often pronounced kíri. 5. sráp'- pa indicates finality and may be added either to a verb root or to a substantive form or adjective, as is the case here.

/

/179 cont./

*539 115 191 The whole of this text, the phonetics as well as the vocabulary and syntax, is less correct than the accounts of old Manuel Inta, who belongs to the generation prior (he is nearly 90 years old) to that of the new narrator (Carlos Kispe), who is about 50 years old.

*539 191 192 1. puKáta is an Aymara word, a language which the informant knows rather well; húxk'-č̌ač̌' for huxk'-ač̌ač̌ay, "we can depart." The narrator sometimes says č̌urk, and sometimes č̌ork or č̌ark, literally, "large," "strong"; this form indicates the superlative here. 3. The Uru have no special word for the mast; they simply call it "the wood" of the sail. 8. The correct form would be č̌axka-č̌úč̌ay. 9. The narrator moreover has a tendency to transform the final -č̌ay into -č̌a (6) or to elide it into ač̌' (1); he always omits it with substantives and adjectives. 12. The informant says Kãs-si instead of the correct form k^{w}á-si, "water." He often confuses e and i, sometimes saying č̌úke and sometimes č̌úki.

VI. The Fishing Enclosure
(Account by Manuel Inta)

(See p. 163 /in the foreign text/)

Free Translation

*539 336 1. This is a fishing enclosure. 2. This enclosure is made to catch fish. 3. We are accustomed to closing the entrance (of the enclosure) with a net. 4. We lift the net quickly with this stick. 5. On this river there is another net. 6. There are enclosures for each of us, very far away from each other. 7. Thus each of us can fish.

/180/

Remarks

*539 336 The Uru build dams of totoras in a V-form on the Desaguadero, the point oriented toward the direction of the current. A narrow passage contrived at the point is closed at the time of fishing by means of a large circular net, the háku, installed on a balsa. Fishers standing on one or several balsas go downstream, beating the water with long poles furnished with a totora ball, in order to frighten the fish which, descending the river course, enter the enclosure and fall into the net [823] placed at the point. Each Uru family has its fishing enclosure, very far away from those of its neighbors (ü-7). The distribution of the location of these enclosures as well as the use of the totora fields which are used to make balsas was ruled by Uru customary law.

*539 193 1. ti- ki or simply -ki, a particle to designate the object about which one is speaking: this enclosure here; this river here (5). 6. ɨla- ɨla, literally "one," means "one for each"; the repetition of the adverb háske háske has the value of a superlative; "far, far, very far"; Aymara and Kelwa form the superlative in an identical manner: eg.: Kala- Kala, "rock rock," in Aymara: "many rocks."

VII. The Village of the Uru at Iru-Itu
Comments on photographs by Manuel Inta

(See p. 164 /in the foreign text/)

Free Translation

*539 [346] 1. Is this your chapel? 2. It is our chapel. 3. These are our houses. 4. The chapel is seen from behind. 5. The chapel is good that way (seen from the front). 6. The totora [824] is kept upright in a heap. /181/ 7. It is kept in a heap so that it will not rot.

4:Vellard--10 D,E-4,5 (no date) 1959-1960 SF24 Uru SF24

[16th - 17th Centuries]

/35 cont./

175 (Juan Alfonso Carrizo. Cancionero popular de Jujuy /Book of Popular Songs of Jujuy/. p. XV. Tucuman. 1935.)

/36/ Calancha (Father Antonio de la)

In his Cronica moralizada /Moral Chronicle/ of the order of St. Augustine, Father de la Calancha speaks at length and in several passages of the Uru.

[162] [181] In the Province of Paria which the illustrious benefactor Lorenço de Aldana gave us...; the largest number of Indians who inhabit it are Uro Indians, the most ignorant people of Peru, obscene and dark-skinned /renegrida/ they eat raw meat, lived on Lakes, and only like marshy country. The chief [103] pueblos in this Province are Paria or Challacollo. /Translated from the Spanish./

(Volume I, p. 353.)

[164] [179] [81] This pueblo (of Challacollo) had 2,400 tax-paying Indians who were being catechized by our Order.... There are crude Uro Indians, without breeding, dark-skinned /renegrida/, without cleanliness, enemies of social intercourse, and not at all [206] prone to the cult of our faith; for subsistence and gain they fish in the lake of Paria...those who live on land /do so/ in [342] sepultures underground owing to the cold, and when they live on the lake, their houses are on platforms and cattails...the [37] Uro Indians are born, grow up, and live on this lake over the water on the cattails, which here are called totorales, and which are very thick, and with this kind of light rushes, here [291] they live with no clothes or coverings (and this in a very cold [199] land) than some mats of these cattails.... Their language is the most obscure, disjointed, and crude of all in Peru, entirely guttural, and it cannot be written without great confusion. [103] [197] There is another pueblo that is called Capinota, and it is a Priory with a subsidiary church of Uro Indians called Charamoco where the teaching religious of Itapaya teaches since he is only one league away.... There is another pueblo four leagues

9:La Barre E-S (1937-1938) 1946
SF24 Uru SF24

Uru, who, at best, are an inhospitable, apathetic, and hate-filled group which has been condemned and harassed throughout its history.

The culture of the *Uru* is now largely like that of the *Aymara*, with whom they have recently extensively intermarried, but it preserves several interesting archaic features of altiplano culture.

CULTURE

SUBSISTENCE ACTIVITIES

Fishing.—The *Uru* depend primarily on fishing (pl. 115, *top*), secondarily on hunting, in the waters and totora reed swamps of Lake Titicaca and the Río Desaguadero. The dry land they own is so restricted that they have little agriculture, although they have some livestock.

Fishing by moonlight is much favored. They frequently use a V-shaped weir made of reed bundles thrust into the mud of the swamp bottom, with a removable net at the opening of the V; the fish are driven into the converging leaves by agitating the water with a bundle of reeds tied to a pole. The *Uru* also use three- and eight-pointed spears, but lack the bow and arrow. They have several kinds of nets. Large dip nets attached to a frame are handled by one fisherman; the netting is placed over a conical frame, the partially closed base of which is 10 ft. (3 m.) in diameter. Another framed net is rectangular, a scoop net with a pole handle. Bottom and dragnets also exist; these are weighted with perforated stones at the bottom, and require a number of persons to drag them behind several balsas. Small fish, salted and toasted, are carried and eaten dry on journeys. Larger varieties are salted, soaked, boned, and stretched out between stones in a slow, smoky fire; then smoke-dried, they are preserved for periods of scarcity.

Hunting.—Hunting is next in importance to fishing. The river marshes abound in water hens, ducks, geese, loons, herons, various diving birds, and gulls, of which only the loon is not eaten, because of its rank oily flesh. A kind of red duck (*puna-suhna*) is most frequently hunted. Hunting methods are varied. The *Uru* are skillful with slings, which are woven and braided of variegated llama and sheep wool. They also use bolas, which have two large wooden floats for balls and a small, grooved, ovoid stone for a handgrip. One use of disguises has been reported. Early in the morning a man conceals himself in a bunch of reeds, slowly approaches the birds which are still stupefied by the cold of the night, then, grabbing them by the feet, quickly kills them by biting the head or twisting the neck. In communal hunts, nets, sometimes hundreds of meters long, are set in slightly curved lines on reed supports. Hunters in balsas make a noisy drive and frighten the birds into the almost invisible nets and dispatch them with clubs. The *Uru* also eat the eggs of aquatic birds, and sun-dry strips of their flesh to make a kind of charqui.

5 La Barre E-5 (1937-1938) 1946
SF24 Uru SF24

501
[924]

[391]
[39]
[505]

PLATE III.—**Uru fishing and gathering totora reeds.** Top: Man pursuing duck; a tripod fish net. Bottom: Towing bundles of reed with a balsa. (Courtesy Alfred Métraux.)

[P 582-C]

9:La Barre E-4,5 (1938) 1941
SF24 Uru SF24

Another house type, beyond the rectangular-thatched and round-matted forms, is that to be found in several examples on the plain just to the north of Ancoaqui. These have a rectangular ground-plan, and instead of being thatched with grass or *totora*-mats, have a pyramidal "dome" corbelled of the same turfs that the walls are made. One of these photographed was on a slight artificial elevation, and had a shallow "moat" around it, possibly to provide dryness and drainage during the long rainy season. Another has two doors, both east and south, suggesting that shepherds might watch their llamas from these tiny huts, which are too small for family habitation; one of them has a chimney-hole in the roof.

Posnansky[10] says the Uru of Sojopaca built temporary shelters, apparently of mud, "like beavers," and figures a carefully domed *putaka* on the islet of Simillaque, as well as a round, stone-roofed house on the Isle of Panza. Uru round houses at Ancoaqui have vertical walls, but some of those of the Chipaya (Posnansky, Figs. 39 and 56) are battened inward, like truncated domes. On islands in the Desaguadero swamps I noticed temporary shelters of *totora* shaped like an old-fashioned straw beehive with a point, erected to shelter the *balsa*-builders.

Food. The Uru have repeatedly been referred to as living chiefly fishermen, but fish are by no means exclusively their diet. Their linguistic congeners to the south, the Chipaya, are chiefly pastoral, and the Uru likewise have pigs, donkeys, some few chickens, sheep, and cows, but no llamas or alpacas. Of the cows Métraux writes:

> these on the border of the Desaguadero [have] become amphibian. They pass the whole day in the water browsing on aquatic plants. From a distance one would take them for buffalo in some Balkan marsh.

These half-wild creatures are so "pastured" because of the acute lack of land among the Uru, whose agriculture,[11] for the same reason, is thus greatly circumscribed. The Uru have dogs, which they call *paka*. Like the Aymara, and most *altiplano* Indians, the Uru keep domesticated guinea-pigs in their houses. Pigs wander about the village also, but are sometimes placed in

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Ethnography of South America seen from the Mojos of Bolivia (Comparative Ethnographic Studies 3, Gothenburg, 1924), p. 19; see also Bernabé Cobo, *Relaciones geográficas de Indias*, Vol. 2: p. 62; Huaman Poma de Ayala, in Means, *Peru and Overseas*, p. 188, Fig. 86 (in Métraux *loc. cit.*).

[10] Posnansky, *op. cit.*, pp. 68, 108 and Figures 104, 111.

[11] George McCutchen McBride, *The Agrarian Indian Communities of Highland Bolivia* (American Geographic Society, Research Series 5, New York, 1921), p. 18, says the Uru "form the rare example of a highland Indian tribe which is not markedly attached to the soil, in contrast to the agricultural people that surround them."

9:La Barre E-4,5 (1938) 1941
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earthen sides, or mud-and-stone conical huts. I observed no cats at Ancoraqui, though they occur in Aymara villages a day's journey hence.

Agriculture is unimportant among the Uru, although they cultivate *kañawa* (or "quinoa," Uru *kaila*, a millet-like grain) from which they make a toasted ground powder they call *pito*. It is pleasant tasting and is very concentrated and nourishing. They also cultivate a small amount of "papas amargas" or small, bitter potatoes from which they make *luta* (Uru *awai*). The succulent white roots of the *totora* reed (*vala*, *kwari*, or *kaima*) are commonly eaten raw by the Uru. These vegetable products they augment in their trading of fish to the Aymara.

Kañawa is ground on a stone slanting outward from the woman's lap with a flat stone bar, whence the ground grain collects in a cloth at the far, lower end. The Uru make a beer they call *kkhi* or *kkhi*, or *cewichaksia* according to Palavecino. Posnansky (page 102) says they sometimes make bricks of masticated maize also; *kkhi* is made from a plant called *kiwari* or *kiri*, which he supposes is aquatic. This same author considers the Uru somewhat more abstemious of alcohol than the Aymara but this is probably less a result of inclination than extreme poverty. This Bolivian student notes also as a food of the Uru "camarocitos [lobsters] transparentes" (Uru *koykoyo*), Amphipods of the group *Hyalella pallida*, *H. robusta*, etc. from two to ten millimeters long, which live in the *totora* roots. Toasted, these are a rich, nutritious food in times of scarcity, as well as an "estimulante sexual." The Uru chew coca, of course, as do all Andean natives, trading their fish for it with the "cholo" or halfbreed tradesmen who bring the narcotic leaf from the *yungas* or deep semi-tropical valleys of the Departamentos of La Paz and Cochabamba.

Fishing is the basis of Uru economy, however, as it appears to have been throughout the period of European knowledge of them. Fishing by moonlight I was told is preferred as the best time. Fish fences, *kwala*, of *totora* bundles stuck in the soft mud of the river bottom were observed several times in the Desaguadero. They are of the same type that is used in the swampy shallows of southern Lake Titicaca. Palavecino thus describes their construction:

> Each of these [bundles] is made of five or six reeds placed in the same direction and attached by the upper thinner part. They carry these bundles in their *balsas* to the place which appears to them best for fishing and there build their weir. To drive the bundles of *totora* into the mud they use the *gaff* (*abrasi*) with which they push their boats. [This is a stout pole with a stubby tripod at the base, so that it will catch on roots and water plants and not sink into the soft mud when the boat is poled along (W. Leb.)] The bundle is placed against the *gaff*, the end of which rests on the lip-

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tum of the handle. The whole is thrust vertically into the earth. The end of the handle emerges a few centimeters above the surface of the water. They repeat the operation until a sufficiently compact weir is raised to hold the fish. The barrier has the form of an angle which opens in the direction of the current. The two wings are straight or curved slightly inward. They end in an opening about a meter wide whose edges, more resistant than the rest of the weir, are made of two handles 20cm. in diameter. Unlike the others, these handles have transverse ligatures a few centimeters above the surface. Facing this passage there is generally an inlet of straw which protects the weir from the wind and to which the fisherman can attach his bales. Here he places the net. He watches the fish that are engaged between the two barriers and then conducted toward the net which closes the weir.

The Uru also make their straw nets to their boats into vast like shelters over themselves when fishing. To drive the fish into their weirs, they attach bunches of reeds to a pole and agitate the water up and down.

Cord nets attached to a frame are also used in Uru fishing. The frame of this type of net (called *katpawa*) is a tripod lashed at the divergent ends of the feet to a stick bent into a ring: these conical nets are quite large and about all one man can handle. Métraux further mentions a smaller rectangular-framed scoop net with a pole handle: "The Indian plunges this rectangular pocket into the water and remains standing or sitting until he sees interesting prey. He begins by lifting his net carefully, then pulls it out of the water with a rapid motion." The Uru also have large bottom-sets or drag-nets, which neither Métraux nor the author were able to see in use as they serve for fishing only in very deep water. These are trailed behind several balsas, their bottoms weighted with perforated stones, and require a number of persons to handle them.

In fishing for a species of *Trichomycterus* (*T. pictus*, Aymará *mañi*), the Uru of the Desaguadero also use a spear, called *puri*, which has eight or so diverging spikes at its end on which the fish is impaled in shallow water.* Although fish are reasonably plentiful in Lake Titicaca and the Río Desaguadero, Agassiz early noted the poverty in variety of the fauna: the genus *Orestias* of the family *Cyprinodontidae*, and the genus *Trichomycterus* of the family *Siluridae* comprise all the known species. The *Orestias* (= Aymará *ispi*, *isipi* = ? Uru *alkerlaia*) are minnow-like fish, viviparous, and of marked sexual dimorphism, which may account for the number and variety of

* Pomansky (pp. 77-78) believes that this term indicates affinities with Amazonian forests, among whose the root *pu-* means "fish," as in the fish names *pira-unha*, *pira-mutáia*, *pira-arara*, *pira-pitinga* ("painted fish"), *pira-aruná* ("red fish" of great size, which is dried like *charqui*), *pira-tinga*, *pira-uaiua* ("infernal of fish"), *piranha* (the terrible sharp-toothed fish of tropical rivers which attacks even humans), *pira-uassú* ("big fish"), *pirantinga* ("whitening fish"), *matupiri*, etc.

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native names for as exiguously a number of scientific varieties. These occur in the species *O. Cuvieri*, *O. Frenkandi*, *O. Humboldti*, *O. Jacobaei*, *O. Boindii*, *O. Orbignei*, *O. frontosus*, and *O. Nattereri*. Of the *Trichomycteri* (Aymara *suli*, *tuyuri*, Uru *lisi*) three species are present: *T. dispar Tschudi*, and *T. rivulatus*. Other native names for fish, which I have been unable to identify closely with the scientific classifications are: (Aymara) *guri-lampa*, *pariwa*, *kari-kuyuri*, *umuwa*, *karuli*; (Uru) *iwi*, *lisi*, *lishi*, *ch'ulu*, *lishiri*, and *mukhuli* —whence it appears that the natives give separate names to the male and female of the same species.

Fish are preserved and prepared in several ways. The smaller kinds (*ispi*, *vulpia*, *silbevlaki*), salted and toasted, are carried and eaten dry on journeys. The larger varieties (*suli*, *tuyuri*, *lisi*) are salted, scaled, boned, and stretched out between stones in a slow, smoky fire, and thus semi-dried are preserved for periods of scarcity, according to Pomonsky. But what appears to be the same process, described by Palavecino, is evidently a method of cooking:

> These ovens, which the Uru call *wanchi*, consist in a hole dug in the soil, whose depth, equal to the diameter, is about 60 cm. The rounded edge is raised at the surface of the ground, and the entire interior is plastered with clay. The Uru light a fire in it and accordion more or less flat stones. When the stones are incandescent, they take them out, all except those on the bottom. They lay on these a layer of fish, on which is placed a second bed of stones, then a layer of fish, and so on until the oven is full. It is closed with stones, and covered with reeds. The fish is thus cooked by steaming.

Métraux notes that this is a very ancient type of earth oven in South America.

Hunting is almost as important to the Uru as fishing, neither of which is basic in Chipaya economy. The river mouths abound with birds of many kinds: waterhens (*wenia*, *lishpa*), ducks (*uyuru*), geese (*wakata*), loons (*pulla*), herons (*alili*), various diving birds and gulls; a large unidentified black bird they call *liwamba* or *lilimba*. Other unidentified birds are: *lalita*, *halawaina* (*waina* is Aymará for "youth, young man"), *ahuwa*, *lawani*. Of these aquatic birds, only the "*halu*" (*pulla*) is not hunted or eaten, because of its rank, oily flesh. Most frequently hunted is a kind of red duck called *p'omuyuru*.

The Uru hunt birds by several methods. Pomonsky says men hunting alone in the early morning disguise themselves in bunches of reeds, slowly approach the birds who are still stupefied by the cold of the night, then, grabbing them by the feet, they quickly kill the birds by biting the head or twisting the neck. The Uru are able users of slingshots woven or braided of variegated llama-wools; and they also use *bolas*, made with two large

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wooden balls and a small grooved, ovoid stone for the handgrip.[22] They have no firearms, nor have they ever possessed them apparently. The bow and arrow is likewise lacking; spears are used only in obtaining fish.

An interesting group-hunt at determined periods employs both men and sometimes women. They stretch in selected sites extensive nets, sometimes hundreds of meters long, for birds whose flight is near the surface of the water; the nets are extended below the surface also, to prevent the escape of diving birds. They anchor the nets to faggots or clumps of *totora* set in slightly curved lines. Then hunters in their *balsas* make much noise and frighten the birds into the almost invisible nets, where they can despatch them with clubs (*yokena*), and kill with their *bolas* those which attempt to escape. Uru also eat the eggs (*šiñi*) of aquatic birds. The flesh of the birds is cut into strips, hung in the sun, and dried into a kind of *charqui* ("jerky," from the Aymará *čarki*).

The Uru do little hunting of land animals. Vicuñas (*Auchenia vicuña; sahaḷa*, a word obviously related to Aymará *haḷa*, llama) are extremely scarce or absent, as are also guanacos. It is said, however, that in winters of very extreme cold[23] small groups of vicuñas may stray down into the Desaguadero region. The head male of the herd is lassoed, and the others of the herd, immobilized by the cold, are speedily killed. The small rodents of the pampas, like the viscacha (*oḷičai*), apparently are not hunted by the Uru. Most of the birds they kill, like a good proportion of the fish they catch, they take to the villages to trade for other food and necessary articles, since these are their sole source of revenue, beyond their *balsa*-making.

Material Culture. The stalks of the giant reed *totora* (a *Cyperaceous* plant, *Scirpus totora*) are surely the most important substance in Uru material culture: of them they make fish-weirs, supports for bird-nests, roof-mats, floor- and sitting-mats, rafters, doors, *balsa*-boats and their sails; and the few cattle they have browse upon the roots of the *totora* as well. Unless *balsas* are frequently removed from the water and thoroughly dried, they last scarcely longer than a year or two before rotting. The Uru *balsa*-builders are famous and supply many of their Aymára neighbors with them in the southwestern region of Lake Titicaca. The reeds must first be cut with

[22] An Uru *bola* from the Desaguadero is now in the possession of Dr Frank G. Speck, in his private collection at the University of Pennsylvania.

[23] The Aymára have a phrase to designate extreme cold or "brass-monkey" weather: *q'ala* ("stone"), *ḳakaya* ("to split"), *wari* (vicuña), *q'asaya* ("makes cry"), i.e. weather cold enough to split stones and make the fluffy-wooled vicuña scream. The Aymára schoolboys in La Paz—according to my "cholo" interpreter, the late Moisés Alvarez, who was one of them—have made a very effective football ("futbol") yell of this familiar phrase: *q'ala ḳakaya wari q'asaya, ura ura!*